

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of:

Awad, et al.

Serial No.: To Be Assigned

Art Unit: To Be Assigned

Filed: Herewith

Examiner: To Be Assigned

For: Asymmetric Partially-Etched  
Leads For Finer Pitch  
Semiconductor Chip Package

Atty Docket: END9-2002-0101US1

**INFORMATION DISCLOSURE STATEMENT**

Commissioner for patents  
PO Box 1450  
Alexandria VA 22313-1450

Sir:

Listed on accompanying form PTO-1449 are a number of documents which may be considered material to the examination of this application. A copy of each of these documents is provided. Their significance is discussed briefly below.

Applicant reserves the right to establish the patentability of the claimed invention over any of the listed documents should they be applied as references, and/or to prove that some of these documents may not be prior art, and/or that to prove that some of these documents may not be enabling for the teachings they purport to offer.

**Discussion**

Document AA1 - U.S. Pat. No. 5,557,143 appears to show a semiconductor device which includes a package containing a semiconductor element disposed on a die pad, and a plurality of leads extending from an inside of the package to an outside of the package.

Document AB1 - U.S. Pat. No. 5,567,655 appears to show a technique for reducing thermally-induced mechanical stress on bond pads in semiconductor device assemblies which is accomplished by grouping the bond pads in two parallel rows, approximately centered about a central axis of the die.

Document AC1 - U.S. Pat. No. 5,859,387 appears to show a semiconductor device which includes a lead frame assembly having a die attach pad with a die secured by a die bonding material.

Document AD1 - U.S. Pat. No. 5,945,259 appears to show a lead frame etching method, which is used for a semiconductor device assembling process and prevent a sharp-edged portion formed on each lateral end of a lead frame material.

Document AE1 - U.S. Pat. No. 6,229,200 appears to show a leadless plastic chip carriers which are formed from a matrix of lead frames provided in a section of a metal strip.

Document AF1 - U.S. Pat. No. 6,242,281 appears to show a leadless plastic chip carriers which are formed from a matrix of lead frames provided in a section of a metal strip.

Document AG1 - U.S. Pat. No. 6,414,385 appears to show a Quad Flat Non-Lead package of semiconductor comprises a chip, a plurality of leads, and a molding compound.

### Conclusion

This statement should not be construed as a representation that an exhaustive search has been made, or that there does not exist information more material to the examination of the present patent application. The submission of this material is not intended to displace the

Examiner's professional ability and duty to search. Indeed, the Examiner is specifically requested **not** to rely solely on the materials submitted herewith. The Examiner is requested to conduct an independent and thorough review of the documents, and to form independent opinions as to their significance.

It is respectfully requested that the Examiner initial and return a copy of the enclosed PTO-1449, and to similarly indicate in the official file wrapper of this patent application that the documents have been considered.

Respectfully submitted,

HANCOCK & ESTABROOK, LLP



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Registration No. 33,607

Date: 6/5/03

<b>FORM PTO-1449</b>  <b>LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT</b> (Use several sheets if necessary)	ATTY. Docket No.	END9-2002-0101US1	SERIAL NO.
	APPLICANT	Awad et al.	
	FILING DATE	Concurrent Herewith	GROUP

## REFERENCE DESIGNATION

## U.S. PATENT DOCUMENTS

EXAMINE		DOCUMENT	DATE	NAME	CLASS	SUB CLASS
	AA1	5,557,143	09/17/1996	Seiji		
	AB1	5,567,655	10/22/1996	Rostoker et al.		
	AC1	5,859,387	01/02/1999	Gagnon		
	AD1	5,945,259	08/31/1999	Kim		
	AE1	6,229,200	05/08/2001	McLellan et al.		
	AF1	6,242,281	06/05/2001	McLellan et al.		
	AG1	6,414,385	07/02/2002	Huang et al.		

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	TRANSLATION	
							YES	NO
	AM							
	AN							
	AO							
	AP							
	AQ							
	AR							
	AS							

## OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, etc.)

	AT	
	AU	

EXAMINER

DATE CONSIDERED

Rev. 10/94 (Form 3.05)

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